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Appendix A: SOFA Implementation Guidelines for Five Operating Recommendations

The Switching Operations Fatality Analysis (SOFA) Working Group submits the following suggestions in response to a request made by Federal Railroad Administration's (FRA) Associate Administrator of Safety George A. Gavalla. During the call, Mr. Gavalla asked that the SOFA group produce guidelines that it feels would help to more effectively implement the Five Major Safety Recommendations contained in the *SOFA Report* released in October 1999. Here are the suggestions:

Impact

Implementation of SOFA Recommendations should be planned, conducted, and reported in ways that encourage follow through by stakeholders, so that the likelihood that it will be effective is increased.

Political Viability

Implementation of SOFA Recommendations should be planned and conducted with anticipation of the different positions of various interest groups, so that their cooperation may be obtained; and so that possible attempts by any of these groups to curtail efforts to improve safety, or to bias or misapply the SOFA Recommendations, can be adverted or counteracted.

Obligations

Obligations of the formal parties to the implementation of the SOFA Recommendations (what is to be done, how, by whom & when) should be agreed to, so that these parties adhere to all specified conditions. Do not expect participation in the implementation by persons or parties who have not previously agreed to do so.

Valid Information

Ensure that the individuals who will administer or supervise (a) new particular procedure(s) are qualified and adequately prepared (in terms of knowledge, training, and practice) to do so.

Propriety (Human Interactions)

Participants should respect human dignity and worth in their interactions with other persons associated with implementation of the SOFA Recommendations, so that participants are not threatened or harmed.

And finally:

- Convey the SOFA messages in a positive manner.
- Keep rules that are not directly related to SOFA separate and apart.
- Messages should be consistent with the five SOFA Recommendations.

- SOFA should be a culture change where necessary.
- SOFA endeavors should be cooperative efforts between management, labor and FRA.
- SOFA Recommendations should be viewed as possible lifestyle changes.

Appendix B: Origin of SOFA Working Group

The letter below was sent by George Gavalla, Associate Administrator for Safety, Federal Railroad Administration to Charles E. Dettmann, Association of American Railroads (AAR), William E. Loftus, President, American Short Line and Regional Railroad Association (ASLRRA), Clarence V. Monin, International President, Brotherhood of Locomotive Engineers (BLE), and Charles L Little, International President, United Transportation Union (UTU).

This letter forms the basis for the creation of the Switching Operations Fatality Analysis (SOFA) Working Group.

February 1998

U.S. Department
Of Transportation
Federal Railroad
Administration

Dear Sirs:

I would like to bring your attention to a serious concern that I have with respect to train and engine service (T&E) employee fatalities. The Federal Railroad Administration (FRA) recently conducted a preliminary review of all T&E employee fatalities for a six year period beginning in 1992. We found that 66 T&E employees were fatally injured in incidents other than major train collisions. These fatal train incidents typically occurred in yards and terminals when the T&E employee was struck by, fell from, or run over by equipment. Unlike major train collisions, the root cause of these incidents, as well as any appropriate corrective action, is often far more difficult to determine.

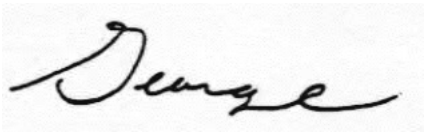
As in the past, we need your help if we are going to reduce and eliminate these fatal train incidents. I believe that a task force consisting of representatives from labor, management, and FRA should be formed to find a way to prevent these tragic occurrences. The team will conduct a detailed fact finding and review and analysis of these incidents to determine whether trends or patterns can be found, identify best practices, and, if possible, formulate recommendations for the entire industry based on the findings.

The process is very similar to the highly successful approach utilized by the joint labor and management Roadway Worker Protection Task Force to analyze roadway worker fatalities and injuries prior to the first formal negotiated rulemaking committee meeting. However, unlike that task force, the findings and recommendations from this team are neither intended to be used in a rulemaking process not to otherwise lead to formal action by FRA. Rather, railroads will be able to evaluate the team's findings and recommendations with respect to their individual operating requirements and would, through the Safety Assurance and Compliance program process, be

encouraged to implement recommendations that would benefit their safety program.

I would like to invite you or your representatives to a planning meeting to discuss the feasibility of such an effort and to determine the team make-up. I suggest a meeting at FRA Headquarters, 1120 Vermont Avenue, N.W., Room 6046, Washington, D.C., on February 10 at 10 a.m. If this is inconvenient, please contact my office at (202) 632-3310. I will be glad to arrange for an alternate date and time or perhaps set up a conference call at a mutually convenient time.

Sincerely,



George Gavalla
Acting Associate Administrator for Safety

Appendix C: Original Introduction to *SOFA Report*, October 1999

1. INTRODUCTION

Background of SOFA

In February 1998, a Switching Operations Fatalities Analysis (SOFA) Working Group, with representatives from the Federal Railroad Administration (FRA), labor and management, was formed at the request of the FRA to review recent employee fatalities (FEs) and develop recommendations for reducing fatalities in switching operations. The charge to the Working Group was contained in a letter (see Appendix A) from George Gavalla, Associate Administrator for Safety of the FRA to the following four organizations: Association of American Railroads (AAR), American Short Line and Regional Railroad Association (ASLRRA), Brotherhood of Locomotive Engineers (BLE), and the United Transportation Union (UTU). It proposed that the group, "Conduct a detailed fact-finding review and analysis of these incidents to determine whether trends or patterns can be found, identify best practices, and, if possible, formulate recommendations for the entire industry based on its findings."

This small group of senior railroad experts in switching operations met almost monthly for the past 20 months, and reviewed the individual case histories of FEs that occurred in switching operations since 1992. Initial efforts of this Working Group have been sponsored by the Office of Safety and supported by the Office of Research and Development at the FRA. Working Group membership and affiliation are given in Appendix B.

The group began its work by reviewing the FEs summaries available from the FRA. However, they soon realized that to better understand the underlying causal factors of these fatalities, they would need to look in more detail at the entire FE files, including photographs of the site and statements of eyewitnesses. From experience, the SOFA Working Group recognized they could not objectively evaluate the underlying causal factors common across these fatalities by reviewing individual case files.

Consequently, it was determined that a database of selected information in the case files was needed for aggregating data and conducting expert analysis. After several months of dedicated effort pouring over dozens of case files, and with considerable give-and-take from the different parties represented, the SOFA Working Group generated a codified database of standardized information, referred to as the "SOFA Matrix." This codified database was then used to help generate trends or patterns in the data for a more comprehensive understanding of the fatalities they were investigating, and became the foundation for the analysis and recommendations in this report. These recommendations include short- and long-term actions to improve the safety of railroad switching operations and the quality of data collected on fatalities in switching operations.

While the FE reports generally tried to establish a single probable cause of each switching FE, it appeared, to the SOFA Working Group, that fatalities more often resulted from the coming together of a complex set of factors. Had any one of these factors not been present, the fatality

would have been less likely to occur.

Shortly after beginning their evaluation process, the SOFA Working Group accepted Human Factors support offered from the Office of Research and Development at the FRA, which then requested additional Human Factors support from the Volpe Center. The Human Factors team brought additional perspectives to the SOFA Working Group while supporting their premise that most FEs have multiple contributing factors. They also helped the SOFA Working Group to refine the SOFA Matrix, and suggested methods to analyze the database to help answer some of the many questions that arose.

In the course of these lengthy investigations, the Working Group became a highly experienced team in understanding the variety of circumstances that can lead to FEs in switching operations. Periodically, the Human Factors Team would lead one of the meetings, devoting specific attention to such things as elaborating and systematizing the possible contributing factors to fatalities, and establishing the relative importance of these possible contributing factors for each of the FEs they had studied. Results of these meetings form the basis for this report.

Appendix D: Five SOFA Operating Recommendations

Below are the Five Operating Recommendations contained in the *SOFA Report*. These Recommendations were each based on between eight and twelve switching fatalities during the January 1, 1992 through July 1, 1998. In the view of the SWG, these fatalities *may not* have occurred if the respective Recommendation was observed. About six months after the release of the *SOFA Report*, the SWG issued shorter versions of the Recommendations in the form 'The Five Lifesavers.' The intend of the shorter Five Lifesavers was to aid in remembering the Recommendations – not to serve as substitutes for the more detailed Recommendations.

Recommendation 1

Any crew member intending to foul track or equipment must notify the locomotive engineer before such action can take place. The locomotive engineer must then apply locomotive or train brakes, have the reverser centered, and then confirm this action with the individual on the ground. Additionally, any crew member that intends to adjust knuckles/drawbars, or apply or remove EOT device, must insure that the cut of cars to be coupled into is separated by no less than 50 feet. Also, the person on the ground must physically inspect the cut of cars not attached to the locomotive to insure that they are completely stopped and, if necessary, a sufficient number of hand brakes must be applied to insure the cut of cars will not move.

Lifesaver 1
Secure equipment before action is taken.

Discussion 1
This recommendation emphasizes the importance of securing the equipment. A thorough understanding by all crew members that the area between cars is a hazardous location, whether equipment is moving or standing, is imperative.

Nineteen Fatalities Involving SOFA Operating Recommendation 1

#	RR	Date	Location	FRA Report #
1	CNW	06/20/92	Northlake, IL	FE-18-92
2	UP	10/17/94	Donaldsonville, LA	FE-26-94
3	UP	12/13/94	Thorton, CA	FE-32-94
4	ATSF	02/24/95	Amarillo, TX	FE-11-95
5	NS	03/02/95	Aiken, SC	FE-12-95
6	CSX	10/04/95	Riverdale, IL	FE-29-95
7	BRC	03/20/96	Bedford Park, IL	FE-09-96
8	UP	10/07/96	Eagle Pass, TX	FE-24-96
9	UP	08/15/97	Elko, NV	FE-25-97
10	BRC	05/26/98	Bedford Park, IL	FE-15-98
11	NS	06/05/98	Hapeville, GA	FE-17-98
12	UP	06/23/99	Redding, CA	FE-16-99

13	AM	09/14/99	Van Buren, AR	FE-24-99
14	IHB	03/09/00	Riverdale, IL	FE-09-00
15	CKRY	07/07/00	Wichita, KS	FE-21-00
16	BNSF	03/03/01	Willmar, MN	FE-08-01
17	UP	05/14/02	Pine Bluff, AR	FE-12-02
18	BNSF	06/16/02	Memphis, TN	FE-16-02
19	LC	08/26/03	Chester, SC	FE-20-03

Recommendation 2

When two or more train crews are simultaneously performing work in the same yard or industry tracks, extra precautions must be taken:

SAME TRACK

- **Two or more crews are prohibited from switching into the same track at the same time, without establishing direct communication with all crew members involved.**

ADJACENT TRACK

Protection must be afforded when there is the possibility of movement on adjacent track(s). Each crew will arrange positive protection for (an) adjacent track(s) through positive communication with yardmaster and/or other crew members.

Lifesaver 2
Protect employees against moving equipment.

Discussion 2
FE-06-94 and FE-31-94 both involved standing equipment left by another crew. In both cases, it can be argued that there was no possibility of either piece of equipment being moved. However, the fact that both pieces of equipment contributed to the fatalities and in both cases the respective crews had no knowledge that the equipment had been moved into the work area and that the physical layout expected by each fatality had changed contributed to the incident. Compliance with and an understanding of this recommendation would have prevented the other seven fatalities.

Twelve Fatalities Involving SOFA Operating Recommendation 2

#	RR	Date	Location	FRA Report #
1	GBW	07/24/92	Wisconsin Rapids, WI	FE-30-92
2	ATSF	08/12/93	Evandale, TX	FE-31-93
3	UP	01/20/94	Fall City, NE	FE-06-94
4	CR	12/06/94	Campbell Hall, NY	FE-31-94
5	ATSF	02/24/95	Amarillo, TX	FE-11-95
6	CSX	05/03/95	Evansville, IN	FE-18-95

7	CR	02/02/97	Burns Harbor, IN	FE-05-97
8	BRC	02/04/98	Bedford Park, IL	FE-05-98
9	BNSF	06/01/98	Lubbock, TX	FE-16-98
10	BNSF	08/11/00	Port of Los Angeles, CA	FE-25-00
11	CWRO	08/08/02	Cleveland, OH	FE-19-02
12	CNIC	02/11/03	Flat Rock, MI	FE-03-03

Recommendation 3

At the beginning of each tour of duty, all crew members will meet and discuss all safety matters and work to be accomplished. Additional briefings will be held any time work changes are made and when necessary to protect their safety during their performance of service.

Lifesaver 3

Discuss safety at the beginning of a job or when a project changes.

Discussion 3

Safe switching operations require teamwork and accountability among all crew members. Each crew member takes responsibility for their own and their fellow crew member's safety. Team work begins with a detailed, effective job briefing, but includes continued updates to all crew members describing the current state of each move as it is executed.

Fourteen Fatalities Involving SOFA Operating Recommendation 3

#	RR	Date	Location	FRA Report #
1	GBW	07/24/92	Wisconsin Rapids, WI	FE-30-92
2	IC	06/07/93	Fulton, KY	FE-23-93
3	SP	08/11/93	Tracy, CA	FE-30-93
4	GC	11/13/93	Macon, GA	FE-47-93
5	SOU	12/05/93	Atlanta, GA	FE-49-93
6	CR	11/15/94	Painted Post, NY	FE-29-94
7	CR	02/17/95	St. James, OH	FE-09-95
8	NS	03/02/95	Aiken, SC	FE-12-95
9	CR	01/12/99	Port Newark, NJ	FE-01-99
10	DME	04/02/99	Waseca, MN	FE-11-99
11	UP	10/15/00	Houston, TX	FE-30-00
12	NS	01/11/01	South Fork, PA	FE-03-01
13	BNSF	06/16/02	Memphis, TN	FE-16-02
14	UP	04/11/03	Pocatello, ID	FE-11-03

Recommendation 4

When using radio communication, locomotive engineers must not begin any shove move without a specified distance from the person controlling the move. Strict compliance with "distance to go" communication must be maintained.

When controlling train or engine movements, all crew members must communicate by hand signals or radio signals. A combination of hand and radio signals is prohibited. All crew members must confirm when the mode of communication changes.

Lifesaver 4

Communicate before action is taken.

Discussion 4

The SOFA group believes that the key to radio use when backing, shoving or pushing a train or cut of cars is the communication between the locomotive engineer and the train crew. The crew must develop the discipline to remain stopped until specific car counts are given by the ground person, rather than to begin moving and then expect to receive the count. If this is done, fatalities related to improper radio communication can be substantially reduced. Additionally, mixing radio and hand signals causes confusion, reduces the chance that other members of the crew would hear of a change in the switching operations, thereby greatly increasing misunderstandings, and, has directly led to fatalities studied by the SOFA Group.

Eighteen Fatalities Involving SOFA Operating Recommendation 4

#	RR	Date	Location	FRA Report #
1	BN	01/28/92	Willmar, MN	FE-03-92
2	FEC	03/11/92	Fort Pierce, FL	FE-08-92
3	ATSF	06/01/92	Escondido, CA	FE-14-92
4	UP	07/25/92	Portland, OR	FE-22-92
5	CR	07/15/93	Anderson, IN	FE-26-93
6	SP	08/11/93	Tracy, CA	FE-30-93
7	CR	11/15/94	Painted Post, NY	FE-29-94
8	CR	12/06/94	Campbell, Hall, NY	FE-31-94
9	CR	02/17/95	St. James, OH	FE-09-95
10	UP	01/29/97	Mason, City, IA	FE-04-97
11	CMRC	06/06/97	Bay City, MI	FE-16-97
12	UP	12/26/97	Boise, ID	FE-45-97
13	IC	12/28/98	Durrant, MS	FE-37-98
14	CR	01/12/99	Port Newark, NJ	FE-01-99
15	UP	06/23/99	Redding, CA	FE-16-99
16	PARN	07/24/00	Skagway, AK	FE-22-00
17	BNSF	09/09/00	Keokuk, IA	FE-29-00
18	NS	07/16/02	Bonlee, NC	FE-17-02

Recommendation 5

Crew members with less than one year of service must have special attention paid to safety awareness, service qualifications, on-the-job training, physical plant familiarity, and overall ability to perform service safely and efficiently. Programs such as peer review, mentoring, and supervisory observation must be utilized to insure employees are able to perform service in a safe manner.

Lifesaver 5

Mentor less experienced employees to perform service safely.

Discussion 5

While classroom training time has increased, in general, the SOFA group has focused on experience and on-the-job training. We have found that limited training and experience continues to factor into many switching operation fatalities. Additional on-the-job training and experience, while working with more experienced peers, may help reduce fatalities among crew members with limited service.

Nineteen Fatalities Involving SOFA Operating Recommendation 5

#	RR	Date	Location	FRA Report #
1	AGC	01/30/92	Polk County, FL	FE-04-92
2	IHRC	06/02/92	Henderson, KY	FE-16-92
3	SOO	10/19/93	Leal, ND	FE-40-93
4	GC	11/13/93	Macon, GA	FE-47-93
5	PTRA	11/10/94	Houston, TX	FE-28-94
6	CR	12/06/94	Campbell Hall, NY	FE-31-94
7	CSX	10/04/95	Riverdale, IL	FE-29-95
8	BRC	03/20/96	Bedford Park, IL	FE-09-96
9	CSX	06/15/96	Charlotte, NC	FE-12-96
10	NS	07/07/96	Sidney, IN	FE-17-96
11	DGNO	09/03/96	Dallas, TX	FE-22-96
12	UP	10/07/96	Eagle Pass, TX	FE-24-96
13	MRL	10/16/97	Laurel, MT	FE-32-97
14	BNSF	06/01/98	Lubbock, TX	FE-16-98
15	NS	05/19/99	Cincinnati, OH	FE-14-99
16	AM	09/14/99	Van Buren, AR	FE-24-99
17	CSX	01/10/01	Chicago, IL	FE-02-01
18	BNSF	06/16/02	Memphis, TN	FE-16-02
19	GC	09/12/03	Dublin, GA	FE-22-03

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Appendix E: Obtaining Electronic Versions of SOFA Reports

Obtaining Electronic Versions of SOFA Working Group Reports

The SOFA Working Group has issued three reports on switching fatalities and casualties. These reports may be obtained electronically at the FRA's Web site, for Switching Operations Fatality Analysis, at: http://www.fra.dot.gov/Content3.asp?P=102.

1. *Findings and Recommendations of the SOFA Working Group*, October 1999

2. *Findings and Recommendations of the SOFA Working Group, Appendix – Volume II*, August 2000

3. *Severe Injuries to Train and Engine Service Employees: Data Description and Injury Characteristics. July 2001*

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Appendix F: Examples of Job Briefings – Operating Recommendation 4

Example 1

5009
For Yard Crews:
(a) The specific job(s) to be done, or moves to be made.
(b) The responsibilities of each employee.
(c) Any additional instructions due to an unusual situation.
(d) The means to be used to communicate hand signals, radio, etc.
(e) Who will be responsible for securing equipment to be left unattended.
If back up hose is required, whether it has been properly connected and tested.
(g) Any job related safety issues, including the Safety Instruction of the Day.
5010
Use caution when carrying multiple items, especially those of different sizes, shapes, and those containing hot or corrosive liquids. Carry only so much as permits you to maintain a firm grip on each item.
NOTE: When obtaining moves from a yardmaster, employees must inquire about other crews that might be switching on the same or adjacent tracks. To avoid injury or damage when engines may be working at both ends of the same track, crews switching must have a clear understanding of the movements to be made.
This information does not relieve employees of their responsibility to be vigilant for movements on any track, at any time, in any direction.
Prior to beginning work, all train and engine crew members must hold a "JOB BRIEFING to ensure that they have a clear and common understanding of all safety critical tasks to be performed, and their individual responsibilities in performing those tasks. When operating conditions change, an additional job briefing must be conducted with all affected crew members to ensure uniform and complete understanding.

For Road Crews: (h) All new or temporary operational requirements affecting the train movement that are necessitated by changes in written instructions such as Timetables, General Orders, Bulletins, Notices or Circulars, etc. , or operational requirements of the Train Manifest.
Whether authority to proceed has been received, and how far that authority extends.
If the authority is not for the entire trip, when and where an additional job briefing will need to take place.
(k) Where required, the need to check with the proper person to ensure that current copies of all required forms governing the movement of the train have been received.
If additional forms must be obtained during the trip, when and where these forms must be obtained.
(m) Any job related safety issues, including the Safety Instruction of the Day.
Employees must discuss the following topics during the "JOB BRIEFING"
(i)
(I)
(f)
AMT 5 – 2

Example 2

ITEM 17. JOB BRIEFING

Safety, Quality, and Productivity are the result of well-planned and conducted job briefings.
In addition, printing shown in italics are instructions specific to Train, Engine, and Yard Employees.

Step 1. Plan the Job Briefing.

A. Develop your own work plan by:
Reviewing work or task to be accomplished.
Checking the job location and work area. Know the condition of gates, switches, derails, track conditions, close clearances, short spurs (next to end of track), bad footing, and that cars are secure before coupling.
Breaking the work or task down into step-by-step procedure.
Determining tool, equipment, and material requirements.
Determine what safety rules or procedures are applicable.
Consider close clearances and gates, etc.

B. Consider existing and potential hazards that might be involved as a result of:
Job and weather.
The nature of the work to be done. Consider switching, spotting, picking up, or setting out.
The job location. Consider whether yard, industry, or road.
The tools, equipment, and materials used.
Equipment to be work on.
Traffic conditions and visibility. Consider people, vehicles, time of day, other jobs in track or area, and obstructions.
Time of day. Consider whether 0300 - 0500 (alertness), or end of shift ("go home" moves).
Safety or personal protective equipment required.

C. Consider how work assignments will be made:
1. Group assignments. Remember that the whole crew is a team and will be held jointly responsible.
2. Individual assignments (who checks for what?). Engineers need to check with crew about the status of gates, switches, derails, hand brakes, how much room, how many cars are already there, etc.
3. Abilities and experience of individuals. Make sure that each

crew member is able to do their assignments (experience, mental state, and physical condition).

Step II. Conduct the Job Briefing.

A. Explain work or task to employees.

1. What is to be done.
2. Why it is to be done.
3. When it is to be done.
4. Where it is to be done.
5. How it is to be done. Everyone needs to understand what signals will be used. If radio, know the condition of the radio and verify the correct radio channel.
6. Who is to do it. Who will open and secure gates, line switches, line derails, make the cut or joint, protect the move?

7. What safety precautions are necessary. All crew members must know that the following are done:
   Gates open, switches lined, derails lined, cars not attached to the facility (plates and hoses removed), cars secured before coupling, sufficient room has been verified for the move, etc. Identify close clearances and bad footing. Engineers must not move until direction and distance has been received, and will stop after moving 1/2 the distance given unless further instructions are received.

B. Discuss existing or potential hazards and way to eliminate or protect against them.

C. Make definite work assignments.

1. Make sure employees understand assignments.
2. Ask questions of the "how" and "why" type.

D. If special tools, materials, equipment, or methods are to be used, make sure employees know how to proceed safely.

E. Issue all instructions clearly and concisely; check to see that they are understood by all members of the crew, including the engineer.

Step III. Job Brief for Special Conditions.

A. Complex Jobs.

1. Brief only a portion of the job.

2. Give additional briefing as the job progresses.

B. Change in job conditions - when it becomes necessary to change plans and procedures as the job progresses, brief employees on these changes. (As examples: the weather condition changes, or use of a third party to relay messages)

Step IV. Follow up by Supervisor.

It is important that frequent checks be made as the job progresses to be sure that:

1. Your plans are being followed and correct work methods are used.
2. Each person is carrying out the assigned responsibilities.
3. Any hidden hazards have been identified and action initiated to eliminate them or what precautions are required.

Step V. Individual Responsibility.

All employees are responsible to see that the work plan is carried out according to the Job Briefing or modified when conditions change.

Constant Communication is Necessary and Required

JOB SAFETY
BREIFING GUIDELINES

Step I Plan the Job Safety Briefing

Develop your own work plan
Identify existing and potential hazards
Assign work based on manpower, abilities, experience and equipment

Step II Conduct the Job Safety Briefing

Explain the work or task to all affected individuals:

Establish two-way dialogue.
Issue instructions clearly and concisely
Discuss ways to eliminate or protect against risks and hazards
Describe use of any special tools, materials equipment or methods
Solicit questions to verify understanding

Step III Briefing for Special Conditions

Brief only a portion of complex jobs at a time
Hold re-briefings whenever job conditions, equipment or personnel change

Step IV Follow up by employee in charge

Check job progress frequently to verify that:

Each person is carry out assigned task,
Work plan is being followed, and
New hazards are identified

Step V Debriefing

Review what went right
Discuss any unexpected occurrences
Discuss ideas for improvement
Recognize good performance

ALL EMPLOYEES ARE RESPONSIBLE FOR CARRY OUT WORK ACCORDING TO THE WORK PLAN AND UPDATING BRIEFING WHEN CONDITIONS CHANGE.

RISK EVALUATION

1. Calculate approximate time for job completion to avoid shortcuts and the need to hurry: _____

2. Compile procedures for implementing job: _____

3. *List Machinery to be used and designate safe working distances for each without making contact with Operator:*

Machine	*Safe Working Distance around machine*

4. Directions to job site: _____

5. Did you talk with all employees who will be in your work area? Yes ☐ No ☐

Employee initials and comments (all employees must initial):

6. End of Day or End of Job Debriefing. _____

NOTE: Use job-briefing guidelines and remember to do continuous job briefings throughout the day!

JOB BRIEFINGS

The First Tool for Any Job

Job Briefings should be done:

1. **At the beginning of each job.**
2. **When conditions change or the work gets confusing.**
3. **When new tasks are started.**
4. **When a rule violation is observed.**

Step 1 - Plan your Job Briefing

1. **Review the work to be performed.**
2. **Break the work down into a step-by-step procedure.**
3. **Determine the tools, equipment and materials needed for each step.**
4. **Check the job location or work area.**
5. **Determine what rules or procedures are applicable.**
6. **Consider potential hazards that may be involved as a result of:**
   - Job and weather conditions.
   - The nature of the work to be done.
   - The job location.
   - Equipment that will be used.
   - Traffic conditions and visibility.
   - The time of day.
7. **Plan the work assignments.**
   - Group assignments.
   - Individual assignments.
   - Abilities and experience of individuals.

Step 2 – Conduct your Job Briefing

1. **Explain the work to be done to the work group.**
   - What is to be done.
   - When it is to be done.
   - Where it is to be done.
   - How it is to be done.
   - Who will do each part.
2. **Discuss existing or potential hazards and ways to eliminate or safeguard them. List the personal protective equipment required.**
3. **Make sure everyone understands his or her work assignments. Discuss any unclear elements.**
4. **Discuss any special or unfamiliar equipment to be used. Make sure employees know how to safely operate.**
5. **Confirm understanding of all instructions.**

Step 3 – Job Brief when conditions change.

1. **The job changes** – When it becomes necessary to change job plans and procedures as the job progresses, huddle and discuss the changes and how it affects each team member.
2. **Weather conditions change** – When weather conditions change during the course of a job, huddle and discuss any necessary changes to the work procedures or additional personal protective equipment or precautions that need to be taken to safeguard against the exposures.
3. **Team members change** – If it becomes necessary to introduce a new team member after the job starts, huddle and make sure the new team member understands the work procedures, potential hazards, and operation of the equipment involved.

Step 4 – If a rule violation is observed, STOP the work and do a Job Briefing.

Discuss the violation and the correct way to perform the task.

Step 5 – Follow Up

Are things going as planned? Are the correct procedures being followed?
Is each team member carrying out his/her assigned responsibilities?
Is communication good among the team members?

2.0 Job Briefings

Safety Requirements

a) Effective job briefings ensure crew members communicate critical information pertaining to safe train operations prior to and throughout their tour of duty in road and yard service.

b) Before performing any job involving two (2) or more employees, a job briefing must be held to ensure that all employees have a clear understanding of:
   i) The task to be performed;
   ii) Your individual responsibility; and
   iii) Situational awareness concerns.

c) Additional job briefings should be carried out as necessary, while the work progresses or as the situation changes.

Reference: Safe Work Procedure 1.0

3.0 Personal Protective Equipment (PPE)

Local management and/or local health and safety committees may request PPE exemptions for specific jobs. Requests for exemptions shall be in writing and forwarded to the Director of Safety and Program Development, after review and approval by the Safety Advisory Board Committee.

a) Wear approved PPE as required for the job classification and/or the work environment, as identified in Sectin 3.8, Table 1 of this manual;

b) PPE should be maintained in proper condition and be properly fitted. Prior to usage it should be inspected and, if found defective, it should be repaired or replaced. This equipment should not be unnecessarily marked or otherwise tampered with and should be properly stored when not in use;

c) Be suitably clothed to perform job functions safely. Protect against hazards to the skin. (Example: cuts and abrasions, chemical, ultraviolet rays, cold, etc.);

d) Avoid wearing clothing that is torn or loose enough to catch on objects or that is greasy or saturated with flammable substances;

e) Avoid any burning operation if clothing is of a flammable material;

f) Pants, trousers or coveralls shall be at least ankle length. Flared, loose or torn cuffs shall be tied or secured to prevent catching in machinery or on equipment. Use of ankle straps are recommended. Shirts shall cover the torso and have at least ¼ length sleeves. Loose or torn sleeves shall be tied or secured in some manner. Tank tops are prohibited;

g) Long hair, beards, dangling accessories, jewelry or other similar items that are likely to be hazardous to the safety or health of an employee in a work place should not be worn unless they are tied, covered or otherwise secured to eliminate the hazard, and

h) Employees reporting for duty must be clean and neat. They must wear the prescribed uniform when required.

SECTION 3 - Safe Work Procedures

1.0 Job Briefings

1.1 Originating Terminal or Shift Start

After reporting for duty, all crew members must ensure they are aware of conditions that will effect safe train operations. Employees are reminded that they must comply with the requirements of Operating Rules (documents required on duty).

Employees Must:

- Ensure all operating bulletins and notices are read and understood;
- Obtain, read, discuss and sign or initial operating authorities as required;
- Confirm proper designation of train/engine and all operating authorities;
- Identify presence of dimensional, speed restrictions and special dangerous cars;
- Ensure proper documentation for all dangerous goods/hazardous materials;
- Discuss and review items affecting the territory the train or engine will operate over; and
- Obtain permission to depart and confirm routing and limits of authority, including applicable limits.

1.2 En-Route

To ensure all crew members maintain awareness of conditions that will effect safe train operations they must verbally discuss between themselves:

- Fixed signals encountered;
- Operating restrictions en-route;
- Set-off/Set-out and lifts/pick-ups prior to reaching work location and ensure proper marshalling;
- Proper train speed;
- Documentation;
- Transfer requirements if relieved en-route; and
- Proper securement of cars set out.

Note: Train crews must promptly report and record locomotive and equipment defects discovered on line in accordance with applicable operating procedures.

1.3 Final Terminal or End of Shift

Ensure crew members do the following:

- Discuss arrival and yarding instructions;
- Ensure proper securement of train and locomotives;
- Report any car or locomotive defects or any needed supplies; and
- Confirm documentation and details of en-route and supplemental work performed is reported.

Reference: General Safety Rules: 1.0, 2.0, 3.1, 3.2, 3.3, 4.0, 10.0
Core Safety Rules: 11.0

SECTION 5 - Glossary

3-Point Protection: A means of protecting employees going on or fouling standing equipment. This protection requires the employee being protected and the employee providing the protection to act together when providing and releasing the protection.

Air: The train's air brake system, as in "to handle (operate) the air"

Air Brake Hose: The flexible connection between the brake pipes of cars or locomotives

Angle Cock: The two-position valve located at both ends of the brake pipe on locomotives, passenger and freight cars. When open, it allows the passage of air.

Approved: Acceptable according to CPR Policy

Bad Order: Equipment that is need for repair.

Compliance: The act of obeying the rule, procedure, policy, program, or law.

Core Safety Rule: Rule applying to Transportation/Field Operations employees.

Coupler: An appliance for connecting cars or locomotives

Derail: A track safety device designed to guide a car off the rails at a selected spot as a means of protection against collisions or other accidents.

EOT/SBU Device: Device that monitors air brake system and train integrity on trains being operated.

Firm Footing: A stance with your feet firmly on the ground, equipment, or other level of space

Frog: A track structure used at the intersection of two running rails to provide support for wheels and passageways for their flanges, thus permitting wheels on either rail to cross to the other.

Fusee: A red flare for flagging purposes.

General Safety Rule: Rule applying to all employees.

Hand Brake: The brake apparatus used to manually apply or release the brakes on a car or locomotive.

Handhold: A firm grip with both hands, when possible, on a handhold or other stationary support.

Knuckle: The pivoting casting that fits into the head of a coupler to engage a mating coupler.

Operator: The person who "runs" and so must maintain control of any locomotive.

Personal Protective Equipment (PPE): Any material or device worn to protect a person from exposure to or contact with any harmful substance or force.

Proper Authority: (1) Those individuals who are qualified by virtue of their expertise or their position of leadership to approve, certify or sanction. (2) Having secured approval for acting in a particular manner. (3) Proper authorization

Restricted Clearance: Space in which two or more objects, usually on stationary and one moving or both moving - pass within hazardous distance of each other.

Rolling Stock: Any on-track wheeled equipment.

Safe Work Procedures: Procedures and or instructions pertaining to the safe performance of a particular task and/or job

Skate: A metal skid placed on the rail in a hump yard to stop cars from rolling out of the lower end of the classification yard.

SOFA: Switching Operation Fatality Analysis. The recommendations of the SOFA working group, which was a true collaborative effort of all stakeholders (FRA, UTU, BLE, AAR, and ASLRAA), establishes five (5) Lifesavers which if carried out as intended, help ensure that fatalities and injuries associated with switching operations are eliminated.

Three-Point Contact: Bodily contact consisting of two hands and one foot or two feet and one hand.

Trained: Has participated in learning event(s) appropriate to the topic.

Transportation/Field Operations Employee: Unionized or non-unionized personnel working within the department of Transporation/Field Operations.


The 5 SOFA Lifesavers
1 Secure equipment before action is taken.
2 Protect employees against moving equipment.
3 Discuss safety at the beginning of a job or when a project changes.
4 Communicate before action is taken.
5 Mentor less experienced employees to perform service safely.
keep
your head
in the
game

2000 General Rules

2001 Job Briefing

Effective job briefings at the beginning of and throughout our work day make us more aware of our surroundings and better prepared to recognize and avoid potential hazards. Remain alert for anything out of the ordinary that occurs during your shift and report any suspicious activity to your immediate supervisor, yardmaster or dispatcher immediately. If they are not available, report the condition or activity directly to the Police Command Center at 1-800-232-0144.

A. When to Conduct a Job Briefing

Conduct a job briefing:

- before beginning a work activity.
- when work activity or work conditions change.
- when another person joins the crew.

B. Conducting a Job Briefing

When conducting a job briefing:

- Discuss the sequence of basic job steps.
- Discuss potential hazards related to the job.
- Make certain that everyone understands all instructions and how the job should be performed.

C. Following up a Job Briefing

Follow up with fellow employees to ensure compliance with safe work practices.

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Data Appendix: Switching Fatalities by Selective Characteristics

Many of the tables contained in the *SOFA Report* released in October 1999 are updated here in the Data Appendix. As such, where the *SOFA Report* tables included 76 switching fatalities, January 1, 1992 through July 01, 1998, dimensioned by attributes such as state, time of day, or day of week. The tables below include 124 fatalities, January 1992 through December 2003.

Table A-1. Switching Fatalities by State, 1992 through 2003

State	Fatalities	State	Fatalities	State	Fatalities
Texas	13	Minnesota	3	Washington	2
Illinois	12	Pennsylvania	3	Wisconsin	2
California	9	South Carolina	3	Arizona	1
Kentucky	7	Alaska	2	Connecticut	1
Georgia	6	Florida	2	Delaware	1
Indiana	5	Idaho	2	Louisiana	1
Nebraska	5	Kansas	2	Mississippi	1
New York	5	Missouri	2	North Dakota	1
Ohio	5	Montana	2	New Jersey	1
North Carolina	4	Oklahoma	2	New Mexico	1
Arkansas	3	Oregon	2	Nevada	1
Iowa	3	Tennessee	2	Utah	1
Michigan	3	Virginia	2	Wyoming	1
				total	124

Table A-2. Switching Fatalities by Shift, 1992 through 2003

Shift		Fatalities	Percent
First	(8:00 a.m. - 4:00 p.m.)	51	41.1%
Second	(4:00 p.m. - 12:00 a.m.)	40	32.3%
Third	(12:00 a.m. - 8:00 a.m.)	33	26.6%
	total	124	100.0%

Table A-3. Switching Fatalities by Shift and Day of Week, 1992 through 2003

	Shift			
	First	**Second**	**Third**	**total**
	8:00 a.m. to 4:00 p.m.	4:00 p.m. - 12:00 a.m.	12:00 a.m. - 8:00 a.m.	
- Day -				
Sunday	2	3	6	11
Monday	8	6	2	16
Tuesday	7	11	7	25
Wednesday	7	7	6	20
Thursday	8	3	8	19
Friday	11	9	4	24
Saturday	8	1	0	9
total	51	40	33	124

Table A-4. Time On Duty Before Fatal Event, 1992 through 2003

Time	**Frequency**	Percent
(hours and minutes)		
0:00 to 0:59	11	8.9%
1:00 to 1:59	18	14.5%
2:00 to 2:59	14	11.3%
3:00 to 3:59	11	8.9%
4:00 to 4:59	16	12.9%
5:00 to 5:59	13	10.5%
6:00 to 6:59	12	9.7%
7:00 to 7:59	5	4.0%
8:00 to 8:59	6	4.8%
9:00 to 9:59	6	4.0%
10:00 to 10:59	5	4.0%
11:00 to 12:00	5	1.6%
not known	2	--
total	124	100.0%

Table A-5. Switching Fatalities by Day, 1992 through 2003

Day	Frequency	Percent
Sunday	11	8.9%
Monday	16	12.9%
Tuesday	25	20.2%
Wednesday	20	16.1%
Thursday	19	15.3%
Friday	24	19.4%
Saturday	9	7.3%
total	124	100.0%

Table A-6. Switching Fatalities by Month, 1992 through 2003

Month	Frequency	Percent	Cumulative Percent
January	15	12.1%	
February	8	6.5%	18.7%
March	8	6.5%	25.0%
April	9	7.3%	32.3%
May	7	5.6%	37.9%
June	15	12.1%	50.0%
July	14	11.3%	61.3%
August	7	5.6%	66.9%
September	9	7.3%	74.2%
October	10	8.1%	82.3%
November	6	4.8%	87.1%
December	16	12.9%	100.0%
total	124	100.0%	

Table A-7. Switching Fatalities by Night and Day, 1992 through 2003

Time		Frequency	Percent
Night	(6:01 p.m. – 6:00 a.m.)	67	54.0
Day	(6:01 a.m. – 6:00 p.m.)	57	46.0
	total	124	100.0%

Table A-8. Switching Fatalities with Older Employees and Lower Years of Service, 1992 through 2003

#	Age	Years of Service	FRA #	RR	Location	Date
1	54	5.5	FE-01-99	CR	Port Newark, NJ	01/12/99
2	53	2.5	FE-12-02	UP	Pine Bluff, AR	05/14/02
3	50	7	FE-16-97	CMRC	Bay City, MI	06/06/97
4	47	0.5	FE-24-99	AM	Van Buren, AR	09/14/99
5	47	2	FE-17-00	UP	Pine Bluff, AR	05/31/00
6	47	1	FE-47-93	GC	Macon, GA	11/13/93
7	45	1	FE-03-99	CR	Alexander, NY	01/22/99
8	45	7	FE-16-95	WC	Argoe, WI	04/06/95
9	43	2	FE-40-93	SOO	Leal, ND	10/19/93
10	43	0.06*	FE-22-96	DGNO	Dallas, TX	09/03/96
11	42	1	FE-02-01	CSX	Chicago, IL	01/10/01
12	40	7.58	FE-22-97	MNCW	Stamford, CT	07/18/97
13	40	4	FE-03-04	NS	Kankakee, IL	01/14/04
14	39	0.5	FE-29-95	CSXT	Riverdale, IL	10/04/95
15	38	2	FE-16-00	CSX	Richmond, VA	05/22/00
16	36	4	FE 25-00	BNSF	Port of Los Angeles, CA	08/11/00
17	36	3.75	FE-08-01	BNSF	Willmar, MN	03/03/01
18	36	1	FE-12-96	CSX	Charlotte, NC	06/15/96
19	36	1	FE-14-99	NS	Cincinnati, OH	05/19/99
20	36	5	FE-35-03	UP	San Antonio, TX	12/07/03
21	36	2.5	FE-04-03	CSX	East Syracuse, NY	02/16/03
22	35	3.75	FE-14-01	BNSF	Clark, OK	04/08/01
23	35	3	FE-12-03	CSX	Kingsport, TN	06/06/03
24	35	2	FE-25-03	BNSF	Fresno, CA	09/24/03
25	32	0.5	FE-04-92	AGC	Polk County, FL	01/30/92
26	31	0.5	FE-28-94	PTRA	Houston, TX	11/10/94

* 10-year gap since 10 years of service

Table A-9. Switching Fatalities by Job Category, 1992 through 2003

Job Category	Frequency	Percent
yard conductor	37	29.8
road local brakeman	23	18.5
road local conductor	20	16.1
yard conductor	18	14.5
road through conductor	15	12.1
road local freight engineer	3	2.4
road through freight engineer	2	1.6
remote control operator	1	0.8
road passenger engineer	1	0.8
laborer – performing duties of yard brakeman	1	0.8
road through brakeman	1	0.8
brakeman trainee	1	0.8
other	1	0.8
total	124	100.0%

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